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1 The UML rules

Radmila Juric

January 1998 **ACM SIGSOFT Software Engineering Notes**, Volume 23 Issue 1

Full text available:  [pdf\(780.95 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

The Unified Modelling Language (UML), version 1.0, developed in order to standardise different object oriented development practices, offers a general way of representing technical, business and software models through the structure and dynamics of the UML modelling elements. The UML also defines a set of rules that are expected to be followed in order to claim that the UML is being followed. In this paper I extract the rules related to the core concepts, and structural and behavioural elements, ...

2 Article abstracts with full text online: Graphical notations for active rules in UML and UML-A

Mikael Berndtsson, Bengt Calestam

March 2003 **ACM SIGSOFT Software Engineering Notes**, Volume 28 Issue 2

Full text available:  [pdf\(161.03 KB\)](#) Additional Information: [full citation](#), [abstract](#)

Active rules (i.e., event condition action rules, triggers) have been put forward as a technique for reacting to important events, and thereby avoiding polling or embedding rule processing in applications. Despite the promises of active rules technology, the usage of active rules is low in practice. It has often been claimed (by database researchers) that the reason why few active rules applications have been built is due to the lack of support in analysis and design phases. Hence, there are ver ...

3 Use case and business rules: styles of documenting business rules in use cases

Ed Anderson, Mike Bradley, Rosemary Brinko

January 1997 **Addendum to the 1997 ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications (Addendum)**

Full text available:  [pdf\(217.45 KB\)](#) Additional Information: [full citation](#), [index terms](#)

4 EFFICIENT: a tool set for supporting the modelling and validation of ebXML

Rik Eshuis, Pierre Brumont, Eric Dubois, Bertrand Grégoire, Sophie Ramel

September 2003 **ACM SIGSOFT Software Engineering Notes, Proceedings of the 9th European software engineering conference held jointly with 11th ACM SIGSOFT international symposium on Foundations of software**

engineering, Volume 28 Issue 5

Full text available: [pdf\(131.21 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

ebXML is becoming the new international standard for the specification and deployment of complex B2B transactions over the internet. ebXML transactions are inherently distributed, involving many actors exchanging XML messages with each other according to complex flows and rules. This complexity hampers validation of the correctness of a modelled business transaction by business experts. To alleviate this problem, we have developed a tool set, consisting of a CASE tool for modelling ebXML transac ...

Keywords: animation, ebXML

5 POWER: using UML/OCL for modeling legislation - an application report

Tom M. van Engers, Rik Gerrits, Margherita Boekenoogen, Erwin Glassée, Patries Kordelaar
May 2001 **Proceedings of the 8th international conference on Artificial intelligence and law**

Full text available: [pdf\(132.56 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The Dutch Tax and Customs Administration (DTCA in Dutch: Belastingdienst) conducts a research program POWER in which methods and tools are developed that support a systematic translation of (new) legislation into the DTCA's processes. The methods and tools developed help to improve the quality of (new) legislation and codify the knowledge used in the translation processes in which legislation and regulations are transformed into procedures, computer programs and other designs. Thereby the tim ...

6 **DIR -XML² - unambiguous access to XML-based business documents in B2B e-commerce**

Christian Huemer
October 2001 **Proceedings of the 3rd ACM conference on Electronic Commerce**

Full text available: [pdf\(184.35 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

XML-based vocabularies have become more and more popular in application-to-application exchanges. Like traditional EDI standards, XML-based formats require an additional agreement on rules to access XML-based data structures. It is our goal to define a machine-readable format for these agreements to accompany XML DTDs or schemas. We present our approach by using a simplified state machine to define access rules. The semantics of the state machine will be expressed by the means of XML itself to b ...

Keywords: B2B e-commerce, EDI, UN/EDIFACT, XML, ebXML, xCBL

7 WIDE workflow development methodology

L. Baresi, F. Casati, S. Castano, M. G. Fugini, I. Mirbel, B. Pernici
March 1999 **ACM SIGSOFT Software Engineering Notes , Proceedings of the international joint conference on Work activities coordination and collaboration**, Volume 24 Issue 2

Full text available: [pdf\(1.34 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The development of workflows (WFs) for complex organizations to be interfaced with existing information systems requires a specific methodological approach to guarantee benefits and effectiveness of the final results. In fact, the WF should be well integrated in the organization both from the technical and the organizational point of view. While the characteristics of the Workflow Management System (WFMS) platform adopted in the implementation are relevant to establish the boundary between the w ...

Keywords: exceptions, patterns, triggers, workflow design

8 Article abstracts with full text online: Enterprise modeling by means of UML instance models

Marco Torchiano, Giorgio Bruno

March 2003 **ACM SIGSOFT Software Engineering Notes**, Volume 28 Issue 2

Full text available:  [pdf\(182.53 KB\)](#) Additional Information: [full citation](#), [abstract](#)

UML is a widespread software modeling language. It can be a good candidate for modeling non-software systems, such as enterprise systems. While several proposals have been formulated, they are either incomplete or complex. In this paper we propose a modeling approach that is based on the basic object-orientation concepts. In particular we stress the use of instance models as a key concept. The enterprise domain is considered throughout the paper as a meaningful case.

Keywords: UML, enterprise models, instance models

9 The Evaluation of Large, Complex UML Analysis and Design Models

May 2004 **Proceedings of the 26th International Conference on Software Engineering**

Full text available:  [pdf\(309.46 KB\)](#)  Additional Information: [full citation](#), [abstract](#)

This paper describes techniques for analyzing large UML models. The first part of the paper describes heuristics and processes for creating semantically correct UML analysis and design models. The second part of the paper briefly describes the internal Design Advisor research tool that was used to analyze Siemens models. The results are presented and some interesting conclusions are drawn.

10 Intriguing technology from OOPSLA: Architecture and design of adaptive object-models

Joseph W. Yoder, Federico Balaguer, Ralph Johnson

December 2001 **ACM SIGPLAN Notices**, Volume 36 Issue 12

Full text available:  [pdf\(1.52 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many object-oriented information systems share an architectural style that emphasizes flexibility and run-time adaptability. Business rules are stored externally to the program such as in a database or XML files instead of in code. The object model that the user cares about is part of the database, and the object model of the code is just an interpreter of the users' object model. We call these systems "Adaptive Object-Models", because the users' object model is interpreted at runtime and can be ...

Keywords: adaptive object-model, adaptive systems, dynamic object-model, meta-architectures, metadata, patterns, reflection, reflective systems meta-modeling

11 Incorporating business requirements and constraints in database conceptual models

Khaled M. Khan, Mahesha Kapurubandara, Urvashi Chadha

January 2004 **Proceedings of the first Asian-Pacific conference on Conceptual modelling - Volume 31**

Full text available:  [pdf\(151.19 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Entity relationship (ER) approach is predominantly used for conceptual modelling of database systems in terms of entities and their relationships. The approach does not provide sufficient support for incorporating business constraints and their impact on the entity

relationships, thus leaving a gap between the requirements elicitation and database implementation. This paper makes an attempt to bridge this gap by proposing a construct that would enable the system architects to illustrate business ...

Keywords: attribute-oriented constraints, business rules, database conceptual modelling, entity-relationship approach

12 Modeling and validation of service-oriented architectures: application vs. style

Luciano Baresi, Reiko Heckel, Sebastian Thöne, Dániel Varró

September 2003 **ACM SIGSOFT Software Engineering Notes , Proceedings of the 9th European software engineering conference held jointly with 11th ACM SIGSOFT international symposium on Foundations of software engineering**, Volume 28 Issue 5

Full text available: [!\[\]\(ec9132f1d27c8919987d92907322654d_img.jpg\) pdf\(239.74 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most applications developed today rely on a given *middleware platform* which governs the interaction between components, the access to resources, etc. To decide, which platform is suitable for a given application (or more generally, to understand the interaction between application and platform), we propose UML models of both the *architectural style of the platform* and the application scenario. Based on a formal interpretation of these as graphs and *graph transformation systems*

Keywords: architectural style, graph transformation system, model checking, modeling middleware platforms, service-oriented architectures

13 Data management issues in electronic commerce: Conceptual modeling and specification generation for B2B business processes based on ebXML

Hyoungho Kim

March 2002 **ACM SIGMOD Record**, Volume 31 Issue 1

Full text available: [!\[\]\(626ce8ac21792b9405bfddfea8e0c96a_img.jpg\) pdf\(457.97 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

In order to support dynamic setup of business processes among independent organizations, a formal standard schema for describing the business processes is basically required. The ebXML framework provides such a specification schema called BPSS (Business Process Specification Schema) which is available in two stand-alone representations: a UML version, and an XML version. The former, however, is not intended for the direct creation of business process specifications, but for defining specificatio ...

14 Service design and modeling: A service re-design methodology for multi-channel adaptation

M. Comerio, F. De Paoli, S. Grega, C. Batini, C. Di Francesco, A. Di Pasquale

November 2004 **Proceedings of the 2nd international conference on Service oriented computing**

Full text available: [!\[\]\(cbd8541a32dfc32f356f5c6c994b0a21_img.jpg\) pdf\(632.66 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many available services have been designed for a single-channel world, Web and Internet typically. In a real world scenario, an ever-growing number of users take advantage of different kinds of communication channels and devices. In this paper, we propose a methodology to formalize the re-design process of these services to support multi-channel access in different contexts. The methodology considers the channel characteristics, the location of users and the context of use to characterize the ...

Keywords: context of use, location awareness, methodology, multi-channel application, qualities of services, service re-design

15 Role Engineering: On modeling system-centric information for role engineering

Dongwan Shin, Gail-Joon Ahn, Sangrae Cho, Seunghun Jin

June 2003 **Proceedings of the eighth ACM symposium on Access control models and technologies**

Full text available: [pdf\(207.09 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we present an approach to modeling system-centric information in order to facilitate role engineering (RE). In particular, we first discuss the general characteristics of the information required in RE. Afterwards, we discuss two informational flow types among authorities involved in RE process, *forward information flow (FIF)* and *backward information flow (BIF)*, together with the introduction of an information model which is greatly suitable for use in the backward in ...

Keywords: attributive permissions, information flow, information model, role engineering, role-based access control

16 UML (panel): the language of blueprints for software?

Derek Coleman, Viktor Ohnjec, John Artim, Erick Rivas, Jim Rumbaugh, Rebecca Wirfs-Brable

October 1997 **ACM SIGPLAN Notices , Proceedings of the 12th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 32 Issue 10

Full text available: [pdf\(749.57 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The Unified Method was launched by Grady Booch and Jim Rumbaugh at an OOPSLA'95 Conference Fringe meeting organised by Rational Software Corporation. In 1996 the Unified Method was re-scoped to a notation, and renamed the Unified Modeling Language (UML). Earlier this year, UML was submitted to the Object Management Group for standardisation and has been endorsed by Microsoft, IBM, HP, Platinum Technologies, ObjectTime and many other corporations. No wonder UML is the leading contender as the d ...

17 Industrial practice 2: B2B integration over the Internet with XML: RosettaNet successes and challenges

Suresh Damodaran

May 2004 **Proceedings of the 13th international World Wide Web conference on Alternate track papers & posters**

Full text available: [pdf\(474.19 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The practical experience of RosettaNet in using Web technologies for B2B integration illustrates the transformative power of Web technologies and also highlights challenges for the future. This paper provides an overview of RosettaNet technical standards and discusses the lessons learned from the standardization efforts, in particular, what works and what doesn't. This paper also describes the effort to increase automation of B2B software integration, and thereby to reduce cost.

Keywords: B2B integration, PIP, XML, business process, messaging services

18 Understanding users II: A qualitative assessment of the efficacy of UML diagrams as a form of graphical documentation in aiding program understanding

Scott Tilley, Shihong Huang

October 2003 **Proceedings of the 21st annual international conference on Documentation**

Full text available: [pdf\(274.99 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Graphical documentation is often characterized as an effective aid in program understanding. However, it is an open question exactly which types of graphical documentation are most suitable for which types of program understanding tasks (and in which specific usage contexts). The Unified Modeling Language (UML) is the de facto standard for modeling modern software applications. This paper describes an experiment to assess the qualitative efficacy of UML diagrams in aiding program understanding. ...

Keywords: Unified Modeling Language (UML), assessment, graphical documentation, program understanding

19 Modeling Web application architectures with UML

Jim Conallen

October 1999 **Communications of the ACM**, Volume 42 Issue 10

Full text available: [pdf\(146.85 KB\)](#)

[html\(39.12 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

20 Tools/platforms: Modelling secure multiagent systems

Haralambos Mouratidis, Paolo Giorgini, Gordon Manson

July 2003 **Proceedings of the second international joint conference on Autonomous agents and multiagent systems**

Full text available: [pdf\(367.40 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Security plays an important role in the development of multiagent systems. However, a careful analysis of software development processes shows that the definition of security requirements is, usually, considered after the design of the system. This is, mainly, due to the fact that agent oriented software engineering methodologies have not integrated security concerns throughout their developing stages. The integration of security concerns during the whole range of the development stages could be ...

Keywords: agent oriented software engineering, methodologies, multiagent systems, security, tropos

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21 Process and workflow management: Introducing eservices in business process models

Lerina Aversano, Gerardo Canfora

July 2002 **Proceedings of the 14th international conference on Software engineering and knowledge engineering**Full text available: [pdf\(249.37 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The need for automatic support of business processes that extend over the boundaries of an enterprise is a recognized need of emerging virtual organizations. To make workflow technologies useful during the enactment of business processes involving many partners that reciprocally provide and consume services, it is important to provide a model, and supporting technologies, to manage the introduction of services in workflow models. This paper introduces a framework for the introduction of eServices ...

Keywords: eservices, process models, workflow management**22 Using UML for software process modeling**

Dirk Jäger, Ansgar Schleicher, Bernhard Westfechtel

October 1999 **ACM SIGSOFT Software Engineering Notes, Proceedings of the 7th European software engineering conference held jointly with the 7th ACM SIGSOFT international symposium on Foundations of software engineering**, Volume 24 Issue 6Full text available: [pdf\(1.44 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** software engineering tools and environments, software process models**23 Workshop and conference summaries: Software development process: strategies for handling business rules and requirements**

Mehdi Sagheb-Tehrani, Arbi Ghazarian

March 2002 **ACM SIGSOFT Software Engineering Notes**, Volume 27 Issue 2Full text available: [pdf\(531.71 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

A successful project demands a correct and thorough requirements specification. This paper proposes techniques and strategies for handling business rules and requirements. The guidelines we provide are based on our own experiences with the development of large-

scale enterprise applications as well as research we have done on best practices for requirements management proposed by other authors. The techniques are based on recursively classifying software requirements into logical coherent classes ...

Keywords: business rules, domain process, managing software, requirements specification, software engineering, software requirements

24 Developing and integrating enterprise components and services: A goal-driven approach to enterprise component identification and specification

Keith Levi, Ali Arsanjani

October 2002 **Communications of the ACM**, Volume 45 Issue 10

Full text available: [!\[\]\(17acf1afa8cdf0b67c53d4865a5ed469_img.jpg\) pdf\(180.66 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
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Mapping a business architecture to a component-based software architecture.

25 Modelling: Specifying and implementing the operational use of constraints in object-oriented applications

Bart Verheecke, Ragnhild Van Der Straeten

February 2002 **Proceedings of the Fortieth International Conference on Tools Pacific: Objects for internet, mobile and embedded applications - Volume 10**

Full text available: [!\[\]\(4688aadfd656ded00cd6bdfae55089a9_img.jpg\) pdf\(991.72 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The design of software applications largely amounts to capturing constraints, representing the domain under study. Current case-tools do not provide an unambiguous way to represent constraints and ignore most of the constraints when moving to code. In this article constraints are expressed in the Object Constraint Language (OCL) on class diagrams of the Unified Modelling Language (UML). We present a framework assisting the developer in making the transition from constraints on detailed design to ...

Keywords: UML/OCL tool support, automatic code generation, constraint, constraint checking, object constraint language, object-oriented programming

26 Towards an understanding of model executability

Erwan Breton, Jean Bézivin

October 2001 **Proceedings of the international conference on Formal Ontology in Information Systems - Volume 2001**

Full text available: [!\[\]\(bcece9a353e60caece619217f5c1ea39_img.jpg\) pdf\(1.15 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Processes are a major concern of information system. They need thus to be defined as precisely as any other artefact of the system. Meta-modeling techniques have proved their relevance for addressing such issues. However, a process meta-model may not be restricted to the definition of a set of concepts, relations and assertions. As the purpose of a process is to be executed, the underlying execution rules have also to be made explicit. In this paper we attempt to identify the main charac ...

Keywords: MOF, action semantics, meta-models, model execution, models, process meta-models

27 Adaptations to OCL for ensuring quality of geographic data (poster session)

Miro Casanova, Thomas Wallet, Maja D'Hondt

January 2000 **Addendum to the 2000 proceedings of the conference on Object-oriented programming, systems, languages, and applications (Addendum)**

Full text available: [pdf\(61.57 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

28 The architecture of a UML virtual machine

Dirk Riehle, Steven Fraleigh, Dirk Bucka-Lassen, Nosa Omorogbe

October 2001 **ACM SIGPLAN Notices , Proceedings of the 16th ACM SIGPLAN conference on Object oriented programming, systems, languages, and applications**, Volume 36 Issue 11

Full text available: [pdf\(180.24 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Current software development tools let developers model a software system and generate program code from the models to run the system. However, generating code and installing a non-trivial system induces a time delay between changing the model and executing it that makes rapid model prototyping awkward if not impossible. This paper presents the architecture of a virtual machine for UML that interprets UML models without any intermediate code-generation step. The paper shows how to embed UML in a ...

29 Web and e-business application: An agreement centric access control mechanism for business to business e-commerce

Victoria Ungureanu

March 2002 **Proceedings of the 2002 ACM symposium on Applied computing**

Full text available: [pdf\(556.10 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We argue that matrix-based models are inadequate for regulating business to business (or B2B, for short) e-commerce due to the diversity, complexity and potential large number of commercial agreements that have to be supported. To deal with these issues, we propose in this paper an agreement-centric access control model. The paper introduces the concept of communication agreement (CAR) as a means for specifying contractual terms, and presents the CAR enforcement mechanism. We explo ...

30 Session 9A: applications in commerce: Automating supply-chain management

Michael N. Huhns, Larry M. Stephens, Nenad Ivezic

July 2002 **Proceedings of the first international joint conference on Autonomous agents and multiagent systems: part 3**

Full text available: [pdf\(284.97 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper explores a linguistic approach to coordination modeling as a formal basis for supply-chain management (SCM) in manufacturing. The approach promotes the interchange of standard documents: enterprises need only describe their supply processes using OAG business object documents and UML interaction diagrams. Our methodology and tools analyze the documents and interactions in terms of four linguistic primitives and convert the diagrams into specifications and implementations of software a ...

Keywords: agent generation, agent-based process control, supply-chain automation

31 A mapping algorithm for computer-assisted exploration in the design of embedded systems

E. P. Mariatos, A. N. Birbas, M. K. Birbas

January 2001 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 6 Issue 1

Full text available: [pdf\(296.29 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

We present a technique for automatic exploration of architectural alternatives in the design of complex electronic embedded systems and systems-on-a-chip. The technique transforms the problem into a set of simple model-to-model operations and a mapping algorithm that becomes the core of the entire design process. The mapping algorithm is formulated as an assignment-type problem (ATP), which is, in turn, solved by a straightforward optimization method. The result is a design assistance tool, ...

Keywords: codesign, embedded system design space exploration, specification mapping

32 Validating UML models against architectural profiles

Petri Selonen, Jianli Xu

September 2003 **ACM SIGSOFT Software Engineering Notes , Proceedings of the 9th European software engineering conference held jointly with 11th ACM SIGSOFT international symposium on Foundations of software engineering**, Volume 28 Issue 5

Full text available: [!\[\]\(f80254b170d0ecdc443847276e625120_img.jpg\) pdf\(158.87 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The Unified Modeling Language (UML) has become a widely adopted standard in the software industry. While UML has established itself in detailed software design, its usage as an architecture description language is still taking its shape. In particular, there is a growing need for techniques to define domain specific architectural constraints and conventions in UML. We address this issue by adopting the concept of UML profiles for architectural design. Architectural profiles are specialized for d ...

Keywords: UML, architectural validation, profiles

33 A knowledge level software engineering methodology for agent oriented programming

Paolo Bresciani, Anna Perini, Paolo Giorgini, Fausto Giunchiglia, John Mylopoulos

May 2001 **Proceedings of the fifth international conference on Autonomous agents**

Full text available: [!\[\]\(07e95c4c760ed8b72579d140ce510c89_img.jpg\) pdf\(222.86 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Our goal in this paper is to introduce and motivate a methodology, called \emph{Tropos}, for building agent oriented software systems. Tropos is based on two key ideas. First, the notion of agent and all the related mentalistic notions (for instance: beliefs, goals, actions and plans) are used in all phases of software development, from the early analysis down to the actual implementation. Second, Tropos covers also the very early phases of requirements analysis, thus allowing for a deeper ...

Keywords: agent-based software engineering, design methodologies

34 Workshop on web engineering: Patterns for web applications

Diego Bonura, Rosario Culmone, Emanuela Merelli

July 2002 **Proceedings of the 14th international conference on Software engineering and knowledge engineering**

Full text available: [!\[\]\(8b489669e5348baffa74b0cc87030268_img.jpg\) pdf\(101.20 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper presents the preliminary results achieved in introducing a new formalism into the Web business logic layer. New useful and consistent patterns have been defined to support the modelling phase of web applications. The innovation in the use of patterns is extremely important when concepts like solidity, stability and reuse are crucial for the application design. The proposed patterns are graphically modelled using the Unified Modelling Language and formalized using the Object Constraint ...

Keywords: UML, business logic, design pattern, pattern, web application

35 Bottom-up design of active object-oriented databases 

G. Kappel, S. Rausch-Schott, W. Retschitzegger, M. Sakkinen
April 2001 **Communications of the ACM**, Volume 44 Issue 4

Full text available:  [pdf\(118.87 KB\)](#)

 [html\(30.35 KB\)](#)

Additional Information: [full citation](#), [references](#), [index terms](#)

36 Service design and modeling: Methodological support for service-oriented design with ISDL 

Dick Quartel, Rico Dijkman, Marten van Sinderen
November 2004 **Proceedings of the 2nd international conference on Service oriented computing**

Full text available:  [pdf\(296.25 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Currently, service-oriented computing is mainly technology-driven. Most developments focus on the technology that enables enterprises to describe, publish and compose application services, and to communicate with applications of other enterprises according to their service descriptions. In this paper, we argue that this technology should be complemented with modelling languages, design methods and techniques supporting <i>service-oriented design</i>. We consider service-oriented design ...

Keywords: ISDL, service, service-oriented computing, service-oriented design

37 Book reviews: Building application servers 

Meyer Tanuan
March 2001 **ACM SIGSOFT Software Engineering Notes**, Volume 26 Issue 2

Full text available:  [pdf\(131.63 KB\)](#)

Additional Information: [full citation](#)

38 Book reviews: Standard C++ IOStreams and locales: advanced programmer's guide and reference 

Isaac Pentinmaki
March 2001 **ACM SIGSOFT Software Engineering Notes**, Volume 26 Issue 2

Full text available:  [pdf\(258.42 KB\)](#)

Additional Information: [full citation](#)

39 Formal methods II: A model-based approach to integrating security policies for embedded devices 

Michael McDougall, Rajeev Alur, Carl A. Gunter
September 2004 **Proceedings of the fourth ACM international conference on Embedded software**

Full text available:  [pdf\(180.81 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Embedded devices like smartcards can now run multiple interacting applications. A particular challenge in this domain is to dynamically integrate diverse security policies. In this paper we show how a framework based on a concise formal model lets us securely customize a payment card equipped with a programmable chip. We present *policy automata*, a formal model of computations that grant or deny access to a resource. This model combines defeasible logic with state machines, representing co ...

Keywords: Java cards, model based design, policy integration, smartcards

40 Technical papers: requirements engineering: Detection of conflicting functional requirements in a use case-driven approach: a static analysis technique based on graph transformation

Jan Hendrik Hausmann, Reiko Heckel, Gabi Taentzer

May 2002 **Proceedings of the 24th International Conference on Software Engineering**

Full text available:  [pdf\(1.55 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In object-oriented software development, requirements of different stakeholders are often manifested in use case models which complement the static domain model by dynamic and functional requirements. In the course of development, these requirements are analyzed and integrated to produce a consistent overall requirements specification. Iterations of the model may be triggered by conflicts between requirements of different parties. However, due to the diversity, incompleteness, and informal nature ...

Keywords: UML, graph transformation, requirements specification, unified process, use cases

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